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Illness perception in patients with androgenetic alopecia and alopecia areata in China

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ABSTRACT

Objective: The aim of the present study was to provide more information on the role of illness perception in patients with androgenetic alopecia (AGA) and those with alopecia areata (AA), and to further investigate the relationship of illness perception with psychological disorders and dermatological QoL.
Methods: The study included 342 patients who were diagnosed with AGA ($n = 212$) or AA ($n = 130$) for the first time at our institution between October 2013 and December 2014. All patients were surveyed before clinical examination by several questionnaires including the Brief Illness Perception, Self-rating Depression Scale, Self-rating Anxiety Scale, and Dermatology Life Quality Index (DLQI).
Results: In the AGA patients, the illness perception and QoL were low, whereas the prevalence of clinical depression and anxiety was higher compared to the AA patients. Illness perception was associated with psychological distress and low QoL in both groups, and some illness perception dimensions were found to be significant predictors of the DLQI scores.
Conclusion: Illness perception plays an important role in AGA and AA patients, and is associated with psychological distress and low QoL. The identification of critical components of illness perception in alopecia patients could help to understand alopecia specificities, to design consultations and interventions according to the perception, and to improve physical and mental outcomes as well as QoL in alopecia patients.

1. Introduction

Hair loss has been well documented to have a negative impact on quality of life (QoL), self-confidence, and self-esteem [1–3], and psychiatric disorders are common in individuals with alopecia [4–7]. Androgenetic alopecia (AGA) and alopecia areata (AA) are the two most common hair loss disorders encountered by dermatologists. Although these disorders are highly prevalent, their aetiologies are still largely unknown. In addition the current treatments have limited efficacy and several adverse effects [8,9].

AGA is characterised by progressive hair follicular miniaturization, and the local and gradual transformation of terminal scalp hair into vellus hair [10]. This disorder is present in approximately 70% of the population [11], and it has been reported that more than half of the Caucasian male population have AGA by the age of 40 years, while it presents in 32.2% of the Caucasian female population that are older than 20 years [12]. AA is characterised by the sudden disappearance of hair strands from hair-bearing areas, with no signs of inflammation or scarring. It has been reported that 0.2% of the population has AA and 1.7% will experience an episode of AA during their lifetime [13]. In China, the prevalence of AA has been reported to be approximately 0.27% [14].

Patient reported outcomes (PRO) are assessments directly obtained from the patients regarding their health conditions in standardized measures without interpretation of the patient's responses by anyone, including a clinician. The perspective of a patient on treatment benefits and health status are often more important to the patient than traditional outcomes, such as clinical and physiological markers, or care-giver reported outcomes [15]. PRO has been increasingly adopted and accepted in a variety of research and clinical settings as a valuable indicator of health care quality and patients' QoL [16].

According to the self-regulatory theory [17–19], the overall patient experience of a disease has a direct impact on behavior, treatment adherence, and disease outcome. Research has provided ample evidence for this assertion in a variety of diseases [20], and it has been shown that clinical outcomes are often more closely related to illness perception than to a patient's clinical status or an objectively assessed measure of disease severity [21]. Therefore, assessment of illness perception is warranted in the current routine clinical practice [22]. In the dermatological field, few studies have investigated illness perception. A previous

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study on illness perception, coping, and QoL in patients with alopecia identified a strong relationship between a patient's beliefs about the condition and QoL [23]. The aim of the present study was to provide more information on the role of illness perception in AGA and AA patients in China, and to further investigate the relationship of illness perception with psychological disorders and dermatological QoL.

2. Materials and methods

2.1. Patients and procedures

The study included consecutive patients older than 18 years who were diagnosed with AGA or AA for the first time at the Department of Dermatology, the First Affiliated Hospital of Third Military Medical University, Chongqing, China between October 2013 and December 2014. The majority of patients came from the southwest regions of China and patients with a family history of mental illness or other hair loss disorders were excluded. None of the patients had received any treatment for alopecia prior to the visit. Diagnosis was based on clinical signs following general guidelines for AGA [24] and AA [25]. All patients were informed in writing and verbally about the study and were asked to voluntarily participate in the survey by filling out the Brief Illness Perception Questionnaire (BIPQ), Self-rating Depression Scale (SDS) questionnaire, Self-rating Anxiety Scale (SAS) questionnaire, and Dermatology Life Quality Index (DLQI) questionnaire according to their own feelings and opinions in a private study room. A total of 370 sets of surveys were distributed and 342 were completed (response rate 92.4%). Additionally, the demographic and clinical data (greasy scalp, scalp itchiness, scalp pain, and sleep difficulties) as reported by each patient were collected. All patients provided explicit consent prior to participating in the study, and the study was approved by the ethics committee of our institution.

3. Measurements

3.1. The Brief Illness Perception Questionnaire

The BIPQ with good reliability and concurrent validity [19,26] was used to assess cognitive and emotional representations of illness with the following dimensions: consequences, timeline, personal control, treatment control, identity (patient's ability to refer a particular symptom to the disease itself), concern, coherence (understanding of the illness), and emotional response. The Chinese BIPQ has been tested and validated previously [27,28]. Each dimension of the questionnaire is measured as a single item scored on an 11-point Likert scale, with higher scores indicating a stronger endorsement of that item [19]. According to the original instructions, the summary score was calculated by adding all the BIPQ individual scores in order to reflect the overall positivity or negativity of a patient's illness perception. The last question is an open-ended and is related to the patient's beliefs about the causes of the illness.

3.2. The Self-rating Depression Scale

The SDS is an assessment tool that reflects the possible severity of depression symptoms reported by a patient [29]. It includes 20 self-reported items that participants indicate how frequently each item applies to them over the past week on a Likert-type scale of 1–4, with a total score ranging from 20 to 80. In China, psychiatry professionals have been using an SDS score of 53 as the cut-off for identifying symptom severity associated with depression disorders, and the Chinese translation of the SDS has been validated and tested previously in the People's Republic of China [30].

3.3. The Self-rating Anxiety Scale

The SAS questionnaire is a 20-item questionnaire used to examine the severity of anxiety symptoms in a patient [31]. Each question is scored on a scale of 1 to 4 based on patient experience over the past week, with fifteen questions assessing the increased level of anxiety, and five questions assessing the reduced level of anxiety. The scores range from 20 to 80 and a total score of greater than 50 indicates anxiety disorders. This scale has been validated and tested in the People's Republic of China [32].

3.4. The Dermatology Life Quality Index

The DLQI is an efficient tool for assessing QoL in patients with dermatological problems, and it has good reliability and validity [33,34]. The 10-item questionnaire is self-explanatory and the patients provide their answers based on experience over the past week. The total score ranges from 0 to 30, with higher scores indicating greater impact on QoL. Scores ≥6 reflect a moderate impact on QoL, and scores ≥11 reflect a severe impact on QoL.

3.5. Data collection and analysis

The demographic and clinical variables of the patients were summarized using descriptive analyses. Continuous data are presented as means and standard deviations (SDs), while categorical data are presented as numbers (percentages). Continuous variables were compared using the *t*-test and analysis of variance (ANOVA), while dichotomous variables were compared using the chi-square or Fischer exact test. The correlations of illness perception with psychological disorders, QoL, and other continuous variables were analyzed using Pearson's correlation coefficients. Multiple linear regression analysis was performed with the DLQI scores as dependent variables and each of the illness perception scores and baseline demographic factors as independent variables. A forward stepwise procedure was used. All analyses were performed using SPSS 20 (IBM, Armonk, NY). The statistical significance levels were set at $P < 0.05$ (significant) and $P < 0.01$ (highly significant).

4. Results

4.1. Patient demographics

The study included 342 patients (212 with AGA and 130 with AA). The mean age of the patients was 30.43 ± 7.80 years in the AGA group and 31.78 ± 10.34 years in the AA group. The demographic and clinical characteristics of the patients are presented in Table 1. Our study group reflects the demographics of AGA and AA patients in the literature. In the AGA group, the most common symptoms were greasy scalp (81%), scalp itchiness (36.3%), sleep difficulties (34.4%), and scalp pain (10.4%), while in the AA group, the most common symptoms were sleep difficulties (40.0%), scalp itchiness (22.3%), greasy scalp (20.8%), and scalp pain (10.8%).

4.2. Illness perception

In the AGA group, the overall BIPQ score was 43.76 ± 8.86, and the highest item-related scores were reported for concern (7.96 ± 2.26), timeline (6.16 ± 2.68), and emotional representation (5.75 ± 2.83), while the lowest scores were noted for treatment control (4.11 ± 2.02) and identity (4.14 ± 2.33).

In the AA group, the overall BIPQ score was 40.15 ± 9.12, and the highest item-related scores were reported for concern (8.42 ± 2.20), consequences (5.72 ± 2.88), and emotional representation (5.68 ± 2.85), while the lowest scores were noted for identity (3.09 ± 2.36) and treatment control (3.35 ± 2.63).